

LEAD TESTING IN SCHOOLS TRAINING WORKSHOP - “TRAINING”

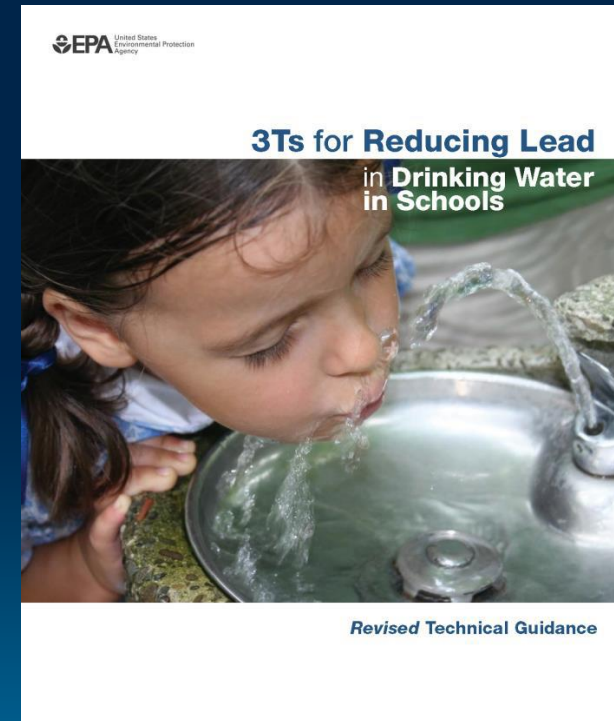


TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER SUPPLY DIVISION

INTRODUCTION TO THE EPA 3Ts



- **Training** school officials to raise awareness of the potential presence, causes, and health effects of lead in drinking water; to help identify outlets with higher lead; and establish a plan to identify and prioritize testing.
- **Testing** drinking water outlets to identify potential problems and take appropriate action, if a problem exists.
- **Telling** students, parents, staff and the community about the monitoring program, potential risks, test results and remedial actions.



STEPS TO DEVELOP AND IMPLEMENT A 3Ts PROGRAM



Training

Testing

Telling

Learn about lead issues in drinking water, review this and other related guidance, and determine what has already been done at the school

Develop a program plan: establish partnerships, assign roles, establish routine practices, create a recordkeeping policy, and begin recording pertinent information

Establish a general communications strategy and keep the public and partners informed of relevant actions and updates

Prepare to sample: create a plumbing profile and sampling plan, and become familiar with sampling protocol and procedures

Conduct sampling: then record and interpret results

Share results with the public

TRAINING



- What you should know about lead in drinking water
 - General information about lead
 - Health effects of lead
 - Sources of lead
 - How lead gets into drinking water
 - How lead in drinking water is regulated
- Planning a program – Sample Plan
 - Assigning roles
 - Reviewing records
 - Establishing partnerships

INFORMATION ABOUT LEAD



- Lead is a toxic metal that can be harmful when ingested or inhaled.
- Lead is distributed to the brain, liver, and kidneys and stored in teeth and bones.
- The body can't differentiate between lead and calcium.
- Multiple body systems can be affected, particularly the central nervous system.
- Pregnant women, infants, and children are more vulnerable to the health effects of lead.

POTENTIAL HEALTH EFFECTS OF INCREASED LEAD EXPOSURE



- Reduced IQ and Attention Span
- Learning Disabilities
- Poor Classroom Performance
- Hyperactivity
- Behavioral Problems
- Impaired Growth
- Hearing Loss



SOURCES OF LEAD IN THE ENVIRONMENT



Lead-based paint



Air



Soil



Lead industry



Consumer products



Drinking water

LEAD IN DRINKING WATER: SOURCE WATER



- Lead can enter drinking water by being present in the source water.
- Lead can enter source water from contaminated runoff or water pollution.



LEAD IN DRINKING WATER: PLUMBING



- Lead can enter drinking water through an interaction between the water and plumbing materials containing lead, known as corrosion.



FACTORS THAT INFLUENCE CORROSION



- Soft water
- Acidic (low pH) water
- Water velocity
- Temperature
- Alkalinity
- Chlorine levels
- Grounding of electrical wiring to water pipes
- Age and condition of plumbing
- Amount of time water is in contact with plumbing



LEAD IN DRINKING WATER



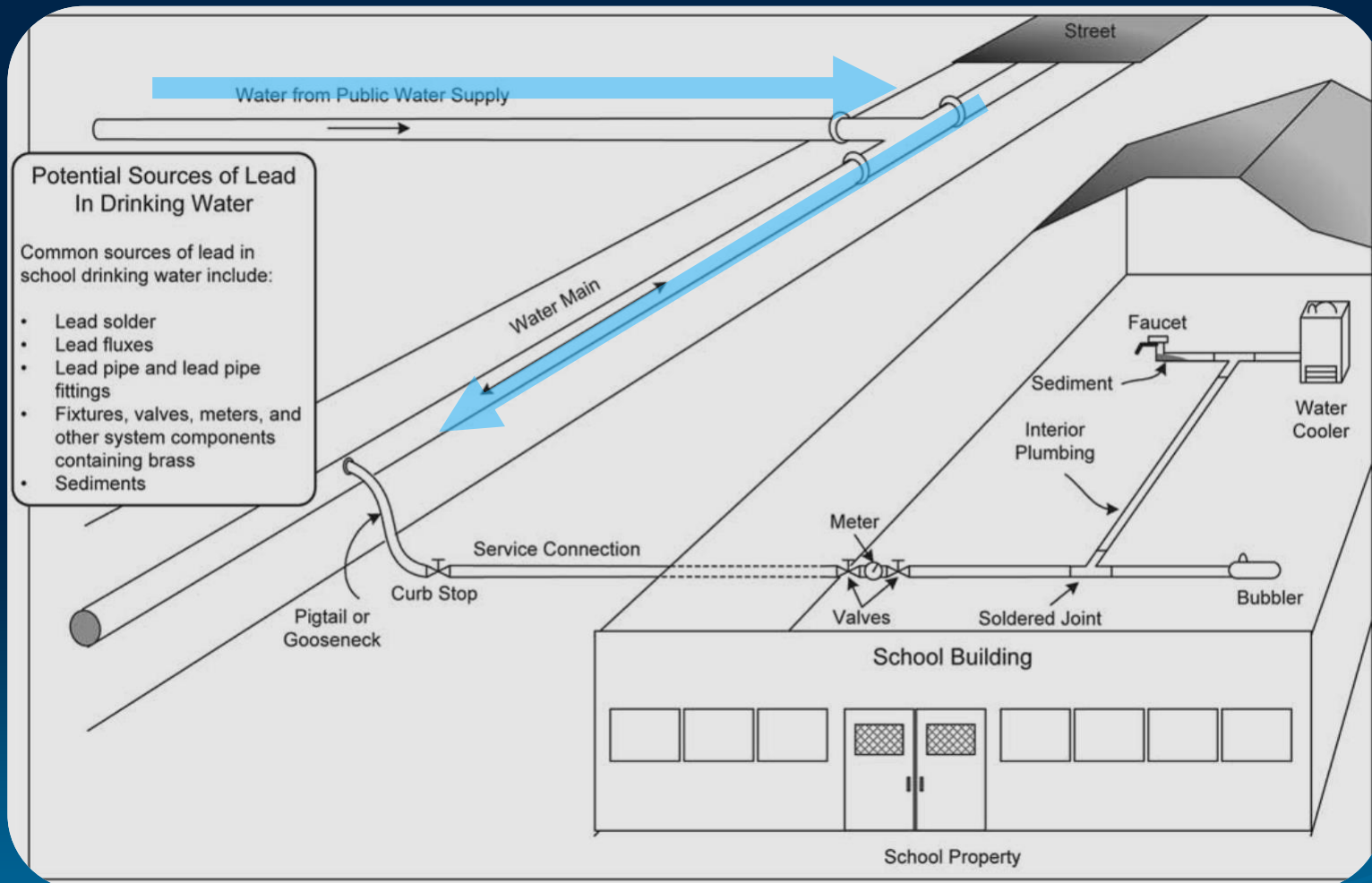
- Children in schools and child care centers may be exposed through water they drink or food that has been prepared with contaminated water.
- Formula fed infants can receive up to 60 percent of their exposure to lead from lead in drinking water.
- Lead in drinking water has no taste, scent, or color.
- Boiling water will not get rid of lead.

REGULATING LEAD IN DRINKING WATER

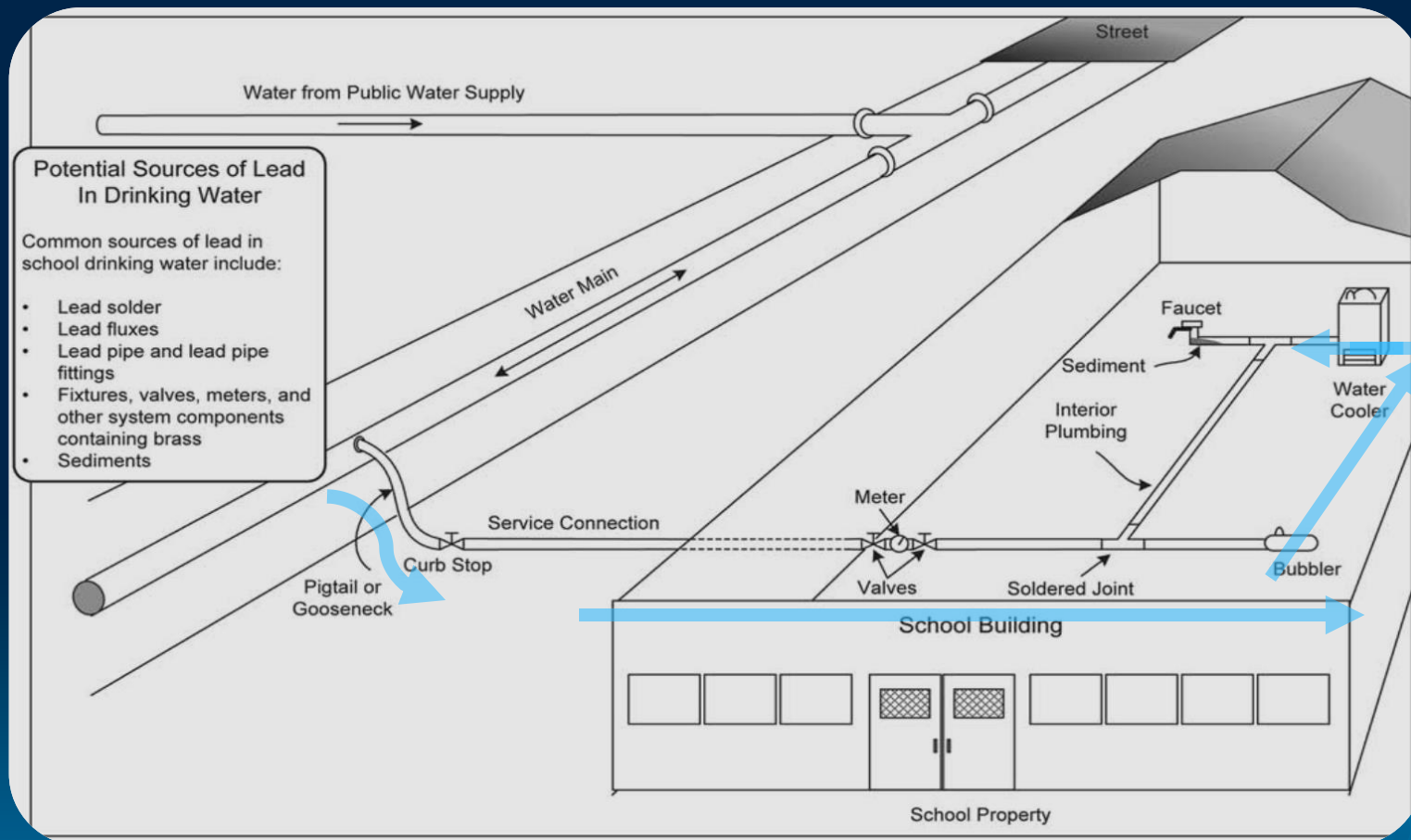


- **LEAD BAN – 1986**, required only “lead-free” materials be used in new plumbing and in plumbing repairs.
- **LEAD CONTAMINATION CONTROL ACT (LCCA) – 1988**, aimed at the identification of lead in drinking water at schools and childcare facilities. LCCA created monitoring & reporting requirements at all schools, and required the replacement of drinking water fixtures that contained excessive levels of lead.
- **LEAD AND COPPER RULE - 1991**, regulation by EPA to minimize the corrosivity and amount of lead and copper in water supplied by public water systems.
- **REDUCTION OF LEAD IN DRINKING WATER ACT – 2011**, further reduced the amount of lead in plumbing and identifies lead-free certification marks on plumbing materials.

LEAD IN SCHOOLS: PUBLIC WATER SUPPLY



LEAD IN SCHOOLS: INTERIOR PLUMBING



COMMON DRINKING WATER OUTLETS



- Bubblers
- Cold water taps – kitchen, breakroom, etc.
- Ice makers
- Drinking fountains or taps
- *Water Coolers*

WATER COOLERS

Table E-1
Halsey Taylor Water Coolers With Lead-Lined Tanks²

The following six model numbers have one or more units in the model series with lead-lined tanks:

WM8A WT8A GC10ACR GC10A GC5A RWM13A

The following models and serial numbers contain lead-lined tanks:

WM14A Serial No.
843034

WM14A Serial No.
843006

WT11A Serial No. 222650

WT21A Serial No.
64309550

WT21A Serial No.
64309542

LL14A Serial No. 64346908

WATER COOLERS

Table E-2
Water Coolers With Other Lead Components

EBCO Manufacturing

All pressure bubbler water coolers with shipping dates from 1962 through 1977 have a bubbler valve containing lead. The units contain a single, 50-50 tin-lead solder joint on the bubbler valve. Model numbers for coolers in this category are not available.

The following models of pressure bubbler coolers produced from 1978 through 1981 contain one 50-50 tin-lead solder joint each.

<u>CP3</u>	<u>DP15W</u>	<u>DPM8</u>	<u>7P</u>	<u>13P</u>	<u>DPM8H</u>	<u>DP15M</u>	<u>DP3R</u>	<u>DP8A</u>
<u>DP16M</u>	<u>DP5S</u>	<u>C10E</u>	<u>PX-10</u>	<u>DP7S</u>	<u>DP13SM</u>	<u>DP7M</u>	<u>DP7MH</u>	<u>DP7WMD</u>
<u>WTC10</u>	<u>DP13M-60</u>	<u>DP14M</u>	<u>CP10-50</u>	<u>CP5</u>	<u>CP5M</u>	<u>DP15MW</u>	<u>DP3R</u>	<u>DP14S</u>
<u>DP20-50</u>	<u>DP7SM</u>	<u>DP10X</u>	<u>DP13A</u>	<u>DP13A-50</u>	<u>EP10F</u>	<u>DP5M</u>	<u>DP10F</u>	<u>CP3H</u>
<u>CP3-50</u>	<u>DP13M</u>	<u>DP3RH</u>	<u>DP5F</u>	<u>CP3M</u>	<u>EP5F</u>	<u>13PL</u>	<u>DP8AH</u>	<u>DP13S</u>
<u>CP10</u>	<u>DP20</u>	<u>DP12N</u>	<u>DP7WM</u>	<u>DP14A-50/60</u>				

Halsey Taylor

1. Lead solder was used in these models of water coolers manufactured between 1978 and the last week of 1987:

<u>WMA-1</u>	<u>SCWT/SCWT-A</u>	<u>SWA-1</u>	<u>DC/DHC-1</u>
<u>S3/5/10D</u>	<u>BFC-4F/7F/4FS/7FS</u>	<u>S300/500/100D</u>	

2. The following coolers manufactured for Haws Drinking Faucet Company (Haws) by Halsey Taylor from November 1984 through December 18, 1987, are not lead-free because they contain 2 tin-lead solder joints. The model designations for these units are as follows:

<u>HC8WT</u>	<u>HC14F</u>	<u>HC6W</u>	<u>HWC7D</u>	<u>HC8WTH</u>	<u>HC14F</u> <u>H</u>	<u>HC8W</u>	<u>HC2F</u>	<u>HC14WT</u>
<u>HC14FL</u>	<u>HC14W</u>	<u>HC2FH</u>	<u>HC14WTH</u>	<u>HC8FL</u>	<u>HC4F</u>	<u>HC5F</u>	<u>HC14WL</u>	<u>HCBF7D</u>
<u>HC4FH</u>	<u>HC10F</u>	<u>HC16WT</u>	<u>HCBF7HO</u>	<u>HC8F</u>	<u>HC8FH</u>	<u>HC4W</u>	<u>HWC7</u>	

If you have one of the Halsey Taylor water coolers noted in Table E-2, contact Scotsman Ice Systems (*address and phone noted above*) to learn more about the requirements surrounding their replacement and rebate program.

WATER COOLERS



- **Drinking Water Fountain:** A fixture connected to the water supply that provides water as needed. There are four types of drinking water fountains: (1) bubblers without central chillers, (2) bubblers with central chillers, (3) water coolers, and (4) bottled water dispensers.
- *3Ts for Reducing Lead in Drinking Water in Schools*, Appendix E gave guidance as to which model fountains contained lead.

WATER COOLERS

- **Drinking Water Fountain: Model & Serial numbers**



WATER COOLERS

- Drinking Water Fountain: Model & Serial numbers



PLANNING A PROGRAM: ASSIGNING ROLES



- Define Responsibilities
 - Planning
 - Budget
 - Sample collector(s)
 - Consultant / Laboratory
 - Communications

PLANNING A PROGRAM: REVIEW SCHOOL RECORDS



- Compile and review all available plumbing and maintenance records.
- If records are sparse, contact/interview previous personnel that may know year built, type of plumbing, previous maintenance projects, etc.
- Has a facility plumbing profile already been created? (see EPA 3Ts – *Appendix I*)
- **Has the facility replaced banned water coolers?**

PLANNING A PROGRAM: ESTABLISHING PARTNERSHIPS



- Contact Your Public Water System
 - Review the most recent consumer confidence report.
 - Are they in compliance with the LCR?
 - Have they ever exceeded the lead action level?
 - Do they treat to minimize corrosivity?
 - Are there lead pipes or lead goosenecks in the distribution system?
 - Have samples ever been collected at school?
 - Can they share in testing costs?
 - Can they help develop your sampling plan?
 - Can they help develop your plumbing profile?

PLANNING A PROGRAM: ESTABLISHING PARTNERSHIPS



- U.S. Environmental Protection Agency
- State and/or Local Health Department
 - Helpful for establishing contacts through programs the local health office may already have in place.
- Local Community Organizations
 - Such as volunteer groups, parent-teacher associations, local environmental groups, Pediatric Environmental Health Specialty Unit (PEHSU), etc.
- State and/or Regional TCEQ office
 - Costs can vary, so contact multiple labs.

TRAINING RECAP



- Learn about lead in drinking water and be able to communicate to the public
 - Sources of lead, health effects, factors that influence corrosion, and how lead is regulated.
- Develop a testing program
 - Assign roles, review records, interview previous employees, etc.
 - Find out if testing and/or remediation has been done in the past.
- Establish partnerships and training resources
 - Public water system, local health department/organizations, laboratories, local community organizations, etc.

QUESTIONS

